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^{2/} See *Ex Parte* Submission of the United States Department of Justice, WT Docket No. 12-269, at 8 (filed Apr. 11, 2013) (“DOJ Submission”).

approximately 43 million subscribers.^{3/} T-Mobile's spectrum holdings are primarily in the Personal Communications Service ("PCS") and Advanced Wireless Service ("AWS") bands. The Company has continuously implemented new and more efficient technologies to maximize the capacity of its spectrum and has invested significant funds to expand its spectrum portfolio and rationalize its existing spectrum holdings.^{4/} T-Mobile also recently completed an important corporate merger, made substantial changes to its business model, and became a publicly-traded company listed on the New York Stock Exchange.^{5/} The Company is making substantial progress in its modernization and 4G Long-Term Evolution ("LTE") effort and continuously strives to provide superior services and the best value in wireless to its customers.^{6/}

T-Mobile today provides 4G service to approximately 220 million people.^{7/} T-Mobile also already provides 4G LTE service in seven metropolitan areas and plans to use its AWS spectrum to launch additional 4G LTE service by the end of this year, providing 4G LTE service to 100 million people by the middle of this year and 200 million people by year-end.^{8/}

^{3/} See T-Mobile Release, *T-Mobile and MetroPCS Combination Complete – Wireless Revolution Just Beginning* (May 1, 2013), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=251624&p=irol-newsArticle&ID=1813495&highlight=> ("T-Mobile Press Release") (announcing the combined effects of the T-Mobile's merger with MetroPCS Communications Inc.).

^{4/} See, e.g., *Applications of T-Mobile License LLC and Cellco Partnership d/b/a Verizon Wireless for Consent to Assign Licenses*, Memorandum Opinion and Order and Declaratory Ruling, 27 FCC Rcd 10698 (2012); *Deutsche Telekom AG, T-Mobile USA, Inc. and MetroPCS Communications, Inc. Seek FCC Consent to the Transfer of Control of PCS Licenses and AWS-1 Licenses and Leases, One 700 MHz License, and International 214 Authorizations Held by MetroPCS Communications, Inc. and by T-Mobile USA, Inc. to Deutsche Telekom AG*, Public Notice, 27 FCC Rcd 13407 (2012).

^{5/} On May 1, 2013, T-Mobile announced the completion of its merger with MetroPCS Communications, Inc. ("MetroPCS"), and now represents the interests of both the T-Mobile and MetroPCS brands. See T-Mobile Press Release.

^{6/} See *id.*

^{7/} See T-Mobile, *T-Mobile 4G Has You Covered*, <http://t-mobile-coverage.t-mobile.com/hspa-mobile-broadband> (last visited June 14, 2013).

^{8/} See *id.*

The Commission possesses many tools to help ensure that competition in the wireless marketplace is robust and should use those tools to full effect:

First and foremost, the Commission should make more spectrum available for commercial broadband services as quickly as possible by continuing to work with the National Telecommunications and Information Administration (“NTIA”) to repurpose the 1755-1780 MHz band, proceeding with plans to auction the 600 MHz band, promptly auctioning the spectrum Congress directed it to auction in the Spectrum Act,^{9/} including the H Block and the 1695-1710 MHz band, and enabling the use of the 3.5 GHz band and other spectrum for small cell and heterogeneous access network (“Het-Net”) deployments.

Second, the Commission should take steps to ensure that all carriers have access to sufficient spectrum, particularly lower-band spectrum, to compete on equal footing with the largest two carriers. In particular, the Commission should, using the authority expressly preserved by Congress, revise its current spectrum aggregation rules to ensure that they reflect the difference in spectrum value and utility above and below 1 GHz.

Third, the Commission should ensure that carriers adhere to the data roaming rules and act expeditiously to resolve roaming disputes.

Fourth, the Commission should promote equipment interoperability – especially in the 600 MHz band – so that all licensees can take advantage of a global market for handsets.

Fifth, the Commission should facilitate competitive IP interconnection arrangements among carriers as the IP network transition occurs.

^{9/} See 47 U.S.C. § 1401 *et seq.* (“Spectrum Act”).

Sixth, the Commission should continue to streamline and improve the tower siting and antenna collocation processes and facilitate the deployment of distributed antenna systems (“DAS”) and small cell technologies.

And *finally*, the Commission should continue to reform its universal service regime in a manner that provides all carriers with equitable access to the funding necessary to support the deployment of mobile services and that fairly assesses Universal Service Fund (“USF”) contribution amounts.

II. SPECTRUM

A. The Commission Must Make Additional Spectrum Available to Promote Competition.

The Bureau seeks comment on whether there is access to sufficient spectrum to prevent it from being a significant barrier to entry in the mobile wireless industry.^{10/} As the Commission is well aware, spectrum is a scarce resource that is an essential input for wireless services.^{11/} The availability of new spectrum, however, is being quickly outpaced by the demand for wireless broadband capacity. At least two phenomena drive this demand. First, the penetration of mobile wireless communications continues to increase as consumers cut the cord and use wireless-only platforms.^{12/} Second, the nature of the communications capacity that consumers demand from

^{10/} See *Public Notice* at 6.

^{11/} See, e.g., *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Sixteenth Report, 28 FCC Rcd 3700, 3769-96 (2013) (“*Sixteenth Competition Report*”) (stating that “spectrum is a key input for the provision of mobile wireless services, and spectrum policy affects if and when existing providers and potential entrants will be able to build out networks or expand capacity”).

^{12/} See, e.g., CTIA, *Wireless Quick Facts*, <http://www.ctia.org/advocacy/research/index.cfm/aid/10323> (last visited June 14, 2013) (stating that the number of wireless-only households has more than doubled since 2007); Trends in Telephone Service, Industry Analysis and Technology Division, Wireline Competition Bureau (September 2010) (indicating that, while consumer expenditures for landline telephones are decreasing, expenditures for wireless are increasing); see also CTIA-The Wireless Association, *CTIA-The Wireless Association® Semi-Annual*

wireless systems continues to move from voice and simple data communications to bandwidth-intensive applications such as video downloads.^{13/} For example, Cisco recently predicted that global mobile data traffic will increase 13-fold by 2017 and that two-thirds of this mobile data traffic will be video, which will increase 16-fold by 2012.^{14/}

T-Mobile is encouraged that President Obama has reiterated his commitment to making additional government spectrum available for commercial use.^{15/} Among other things, the June 2013 White House Memorandum establishes a Spectrum Policy Team to implement the President's directives; directs federal agencies to include spectrum efficiency when considering the procurement of spectrum dependent systems; and will require federal agencies to particularly justify requests to use spectrum in the valuable 400 MHz to 6 GHz range.^{16/} While T-Mobile applauds the President and the Commission for the steps they have taken thus far to make more spectrum available for wireless carriers, it is clear that more work is necessary.

Survey Shows U.S. Wireless Providers Invested Almost Six Times More Per Subscriber than Rest of World (May 2, 2013), available at <http://www.ctia.org/media/press/body.cfm/prid/2261> (reporting that the number of wireless subscriber units (*i.e.* active devices associated with subscriptions or prepaid accounts) totaled 326.4 million at year-end 2012, resulting in 102 percent penetration).

^{13/} See, *e.g.*, Cisco, *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012–2017*, at 10 (Feb. 2013) (“Cisco Report”), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf (reporting that “mobile video will generate much of the mobile traffic growth through 2017”).

^{14/} See *id.* at 3.

^{15/} See White House Office of the Press Secretary, *Presidential Memorandum: Expanding America's Leadership in Wireless Innovation*, June 14, 2013, available at <http://www.whitehouse.gov/the-press-office/2013/06/14/presidential-memorandum-expanding-americas-leadership-wireless-innovation> (“June 2013 White House Memorandum”).

^{16/} *Id.* at 2, 3.

1. The 1755-1780 MHz Band

T-Mobile is pleased with the Commission's recent announcement that it intends to auction the 1755-1780 MHz band as soon as September 2014.^{17/} As the Commission noted, the commercial wireless industry has advocated pairing the 1755-1780 MHz band with the 2155-2180 MHz ("AWS-3") band, which the Spectrum Act requires to be licensed by February 2015.^{18/} The Commission's announcement provides NTIA with the notice required to "preserve the possibility of auctioning" the two spectrum bands together.^{19/}

As T-Mobile has discussed previously, the 1755-1780 MHz band is particularly appropriate for commercial use as it is identified internationally for commercial mobile services and is used for that purpose throughout most of the world.^{20/} Transitioning the spectrum to commercial use would harmonize U.S. allocation of the spectrum with international use and will produce economies of scale and scope for handsets, lowering costs and speeding implementation. International harmonization also will facilitate consumers' use of their wireless devices while traveling to other countries by alleviating compatibility problems. The 1755-1780 MHz band is immediately adjacent to existing domestic wireless spectrum and would fit seamlessly into the current mobile broadband spectrum portfolio allowing for more immediate equipment development and deployment.

^{17/} See Letter from the Honorable Julius Genachowski, Chairman, FCC, to the Honorable Lawrence E. Strickling, Assistant Secretary for Communications and Information, NTIA (March 20, 2013) ("FCC March 2013 Letter").

^{18/} *Id.* at 1.

^{19/} *Id.*

^{20/} See, e.g., Comments of T-Mobile USA, Inc., WT Docket No. 11-186, at 12-16 (filed April 13, 2012) ("T-Mobile Wireless Competition Comments"); *Creating Opportunities Through Improved Government Spectrum Efficiency Before the Subcomm. on Commc'ns & Tech. of the H. Comm. on Energy and Comm.*, 112th Cong. 4-5 (testimony of Steve B. Sharkey, Director, Chief Engineering and Technology Policy, T-Mobile USA, Inc.).

Pairing the 1755-1780 MHz band with the AWS-3 spectrum, as the Commission contemplates, will permit alignment with existing services, facilitate faster deployment of services, and maximize efficient use of the spectrum. These benefits are reflected in the valuation of the spectrum. For instance, one study found that auctioning the AWS-3 spectrum by itself would yield \$3.6 billion, while auctioning it together with the 1755-1780 MHz band would generate \$12 billion.^{21/} Auctioning these bands on a paired basis therefore would ensure the best economic return for taxpayers, as well as the most efficient use for broadband services.

While NTIA has identified challenges to making the 1755-1780 MHz spectrum available for commercial use, the agency and the wireless industry have made significant progress on creating a roadmap that will allow for carrier use of the spectrum. In particular, T-Mobile has obtained special temporary authority and has been working cooperatively with appropriate federal entities and other carriers to explore the prospects of sharing the band. T-Mobile also has been actively participating in NTIA's Commerce Spectrum Management Advisory Committee ("CSMAC") working groups to study and exchange information regarding operations in the 1755-1780 MHz spectrum. As part of those efforts, a number of working groups were created under CSMAC to "explore ways to lower the repurposing costs and/or improve or facilitate industry access while protecting federal operations" in the 1695-1710 MHz and 1755-1850 MHz bands.^{22/} Four of the five working groups created focus on operations in the 1755-1850 MHz band, including early access to the 1755-1780 MHz portion of the band. Effective execution of

^{21/} Coleman Bazelon, *The Economic Basis of Spectrum Value: Pairing AWS-3 with the 1755 MHz Band Is More Valuable Than Pairing It with Frequencies from the 1690 MHz Band*, The Brattle Group, Inc., at 1 (April 11, 2011).

^{22/} See CSMAC, *Final Report: Working Group 1 – 1695-1710 MHz Meteorological-Satellite* (Jan. 22, 2013), available at <http://www.ntia.doc.gov/other-publication/2013/csmac-wg-1-final-report-v2>; see also CSMAC, *Working Group 1 (WG-1) Report* (June 18, 2013), available at <http://www.ntia.doc.gov/other-publication/2013/csmac-working-group-1-wg-1-report-18-june-2013>.

this objective requires an open discussion and exchange of information between incumbents and industry. T-Mobile is therefore particularly encouraged that last week's Presidential Memorandum directed NTIA to continue to facilitate discussions between industry and federal users regarding "the sharing of data to expedite commercial entry into these bands [including the 1755-1850 MHz band]" including through relocation of federal systems to alternative spectrum.^{23/} These efforts along with new and existing laws fully protecting the relocation of federal users, as well as the experience gained in previous relocation efforts, will help NTIA and the industry solidify a workable plan to transition the spectrum from federal to commercial use.^{24/}

T-Mobile urges the FCC to move forward aggressively with its plans to auction the 1755-1780 MHz band so that it can be paired with the AWS-3 spectrum, including helping to speed "the successful completion of the CSMAC process, the acceptance of the recommendations by NTIA, completion of the [statutory] technical review process, and completion of the Commission's rulemaking process with respect to these bands."^{25/} Taking these actions without delay will help ensure that this valuable spectrum is put to use and allow carriers to compete more effectively.

^{23/} June 2013 White House Memorandum at 2. T-Mobile applauds the President's continued efforts to expand the availability of spectrum for commercial uses and in particular the directives to continue to work towards making the 1755-1780 MHz band available for commercial use and to explore other spectrum that can be made available to carriers.

^{24/} As Commissioner Rosenworcel recently suggested, one method for making more spectrum available for commercial services is by providing federal users with incentives to operate their spectrum more efficiently. *See* Prepared Remarks of FCC Commissioner Jessica Rosenworcel, CTIA 2013 Las Vegas, Nevada (May 22, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-321155A1.pdf. T-Mobile finds this recommendation promising and is interested in studying it further.

^{25/} FCC March 2013 Letter at 1.

2. The 600 MHz Band

The Commission must proceed with plans to auction the 600 MHz band.^{26/} Acting Chairwoman Clyburn has said that an auction may be conducted as early as 2014.^{27/} While the issues presented by the incentive auction are complex, T-Mobile urges the Commission to adhere to this schedule so that this valuable spectrum can be made available to carriers as soon as possible. T-Mobile appreciates the substantial work the Commission staff has done to date to repurpose the 600 MHz band spectrum for mobile broadband use and looks forward to continued collaboration with the Commission and other industry participants to make sure the spectrum can be auctioned as quickly as possible and in a manner that promotes further competition within the wireless industry. As noted below, there are meaningful differences between lower-band spectrum like 600 MHz and upper-band spectrum. By making additional lower-band spectrum available, the Commission can help address the competitive advantages enjoyed by the two largest carriers that hold the vast majority of below 1 GHz spectrum today. With modest adjustments to the FCC's proposed band plan and framework for conducting the forward and reverse auctions, this spectrum has the potential to change the wireless marketplace for the better in the United States, stimulating investment, promoting competition, and accelerating mobile broadband deployment throughout the country.

^{26/} See *Wireless Telecommunications Bureau Seeks to Supplement the Record on the 600 MHz Band Plan*, Public Notice, GN Docket No. 12-268, DA 13-1157 (rel. May 17, 2013); *Commission Hosts 600 MHz Band Plan Workshop*, FCC (May 7, 2013), <http://www.fcc.gov/blog/commission-hosts-600-mhz-band-plan-workshop-0>; *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357 (2012).

^{27/} See Prepared Remarks of FCC Acting Chairwoman Mignon L. Clyburn, CTIA 2013 Las Vegas, Nevada (May 21, 2013), *available at* <http://www.fcc.gov/document/remarks-fcc-acting-chairwoman-mignon-l-clyburn-ctia-2013> (“The Incentive Auctions team is continuing to work on, and evaluate, all of the input and proposals received during our workshops and webinars, and the Commission remains on track to issue auction rules this year and conduct an auction in 2014.”).

3. The 1695-1710 MHz Band

To accommodate the growing demand for bandwidth-intensive services, the Commission should auction the spectrum specified by Congress in the Spectrum Act. The Spectrum Act directs the Commission to license by February 22, 2015, 15 megahertz of spectrum from the 1675-1710 MHz band identified by NTIA as spectrum that may be reallocated for commercial use.^{28/} NTIA has determined that the 1695-1710 MHz band can be made available for wireless broadband use and has recommended that the FCC take the necessary regulatory actions to do so.^{29/} Accordingly, the FCC has announced that it plans to commence the auction of licenses in this band in September 2014.^{30/}

T-Mobile urges the Commission to act expeditiously to reallocate and license the 1695-1710 MHz band for commercial mobile use. The 1695-1710 MHz band is immediately adjacent to existing AWS spectrum at 1710-1755 MHz, making it particularly desirable for commercial wireless systems. As CTIA—The Wireless Association (“CTIA”) recently recommended, the 1695-1710 MHz band can also be usefully paired with the 2095-2110 MHz band.^{31/} Pairing these two spectrum blocks would create a downward extension of the AWS spectrum and holds significant potential to expand broadband capacity.

^{28/} See Spectrum Act §§ 1451(a)-(b).

^{29/} See Letter from Karl Nebbia, Associate Administrator, NTIA, to Julius Knapp, Chief, Office of Engineering and Technology, FCC, (Jan. 19, 2011), *available at* http://www.ntia.doc.gov/files/ntia/publications/ntia_fcc_letter_115_mhz_01192011.pdf.

^{30/} See FCC March 2013 Letter at 1; *see also* Press Release, *Statement of Commissioner Ajit Pai on Commencement of Process to Auction 1755-1780 MHz Band* (rel. March 21, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-319719A1.pdf.

^{31/} See *Finding the FCC’s 15 MHz: Implementation of Section 6401(b)(2)(E) of the Middle Class Tax Relief and Job Creation Act of 2012 – Identification of 15 Megahertz of Contiguous Spectrum for Mobile Broadband* at 12, *attached to* Letter from Steve Largent, President and CEO, CTIA, to Chairman Julius Genachowski and Commissioners Robert McDowell, Mignon Clyburn, Jessica Rosenworcel and Ajit Pai, FCC, GN Docket No. 09-51 (filed March 13, 2013).

In order to fully effectuate NTIA's recommendations and the FCC's plans, however, it is beneficial for the International Telecommunication Union to allocate the 1695-1700 MHz band for mobile operations on a co-primary basis globally.^{32/} As T-Mobile has explained,^{33/} the benefits of globally harmonized spectrum for broadband services has been clearly recognized in numerous proceedings and identifying 1695-1710 MHz internationally for broadband wireless services, including International Mobile Telecommunications, will facilitate global deployment and the resulting economies of scale.

T-Mobile recognizes that NTIA's recommendation is based on shared use of the 1695-1710 MHz band between government and non-government users. T-Mobile is a co-chair of the NTIA CSMAC working group that is evaluating how incumbent operations in the band can be protected from future wireless broadband systems. In order to make the 1695-1710 MHz band available for mobile broadband and develop standards for protecting incumbent operations, T-Mobile strongly supports the Advisory Committee for the 2015 World Radiocommunication Conference's ("WRC-15") recommendation that the United States support the development of technical requirements that will ultimately lead to a primary mobile allocation in the 1695-1710 MHz band and asks the Commission to urge action at WRC-15 to make the band internationally harmonized.

4. The H Block

The Spectrum Act also directs the Commission to grant new initial licenses for the 1915-1920 MHz band and the 1995-2000 MHz band (together the "H Block") unless doing so would cause harmful interference to commercial mobile service licensees in the 1930-1995 MHz band,

^{32/} See Comments of T-Mobile USA, Inc., IB Docket No. 04-286, at 2-3 (filed March 22, 2013) ("T-Mobile WRC Comments").

^{33/} See T-Mobile WRC Comments at 2-3.

which is currently used as the PCS downlink band.^{34/} Pursuant to this directive, the Commission has proposed technical and service rules that are designed to permit optimal use of the H Block without causing harmful interference to PCS handsets.^{35/}

T-Mobile is encouraged that the Commission has announced that it will consider rules governing the H Block at its upcoming Open Meeting on June 27.^{36/} As it completes its consideration of H Block rules, T-Mobile urges the Commission to continue to focus, as Congress directed, on measures that will ensure against interference to PCS handsets. T-Mobile, along with AT&T, recently retained 7Layers AG to evaluate that interference potential and submitted a Testing Report to the Commission with an analysis of the results.^{37/} The Testing Report confirms that additional measures are required to adequately protect end-user devices in the PCS band from mobile operations in the Lower H Block.^{38/} Accordingly, T-Mobile asks the Commission to require future H Block licensees to provide notification to PCS A Block licensees when they turn on service in the H Block on a market-by-market basis.^{39/} Such a rule would enable full use of the H Block for LTE service while also assisting PCS licensees in network planning to reduce the probability of interference.

^{34/} See Spectrum Act § 1451.

^{35/} See *Service Rules for the Advanced Wireless Services H Block—Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz Bands*, Notice of Proposed Rulemaking, 27 FCC Rcd 16258 (2012).

^{36/} Press Release, *FCC Announces Tentative Agenda for June Open Meeting* (rel. June 6, 2013).

^{37/} See Scott Prather and Karri Kuoppamaki, *H-Block Compatibility Analysis for GSM, UMTA and LTE* (2013) (“Testing Report”), attached to Letter from Kathleen O’Brien Ham, Vice President, Federal Regulatory Affairs, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-357 (filed May 13, 2013).

^{38/} See Testing Report at 1-2.

^{39/} See also Letter from Kathleen O’Brien Ham, Vice President, Federal Regulatory Affairs, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-357 (filed June 12, 2013).

5. The 3.5 GHz Band

While T-Mobile continues to urge the Commission to focus on making clear, exclusive use spectrum below 3 GHz available for commercial operations, the FCC has recognized that carriers need a range of spectrum for coverage and capacity.^{40/} T-Mobile is encouraged that the Commission has initiated a proceeding that may make spectrum available to help increase capacity in the 3550-3650 MHz band (“3.5 GHz Band”).^{41/} As T-Mobile explained in that proceeding, carriers have small cell offloading and backhaul needs that can be accommodated in the 3.5 GHz Band.^{42/} If made available to commercial providers, the 3.5 GHz Band can be used as a component of mobile broadband providers’ Het-Net deployments. The Commission has received comments and reply comments in this proceeding and should act as soon as possible to make spectrum available at 3.5 GHz and elsewhere for the above purposes. The 3.5 GHz Band and other spectrum available for licensed small cell deployments can help carriers be more competitive by easing the capacity constraints on mobile wireless spectrum through offloading and other management techniques.

The Commission’s primary proposal in the 3.5 GHz proceeding was inspired by the overly-complex sharing approach suggested by the report issued by the President’s Council of

^{40/} See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Sixteenth Report, 28 FCC Rcd 3700, ¶ 119 (2013) (“*Sixteenth Competition Report*”) (“[A]s a general matter, a provider is best positioned if it holds complementary spectrum bands, i.e., both higher and lower frequency bands.”).

^{41/} See *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Notice of Proposed Rulemaking, 27 FCC Rcd 15594 (2012).

^{42/} See Comments of T-Mobile USA, Inc., GN Docket No. 12-354 (filed Feb. 20, 2013); Reply Comments of T-Mobile USA, Inc., GN Docket No. 12-354 (filed April 5, 2013); Cisco Report at 3 (predicting that without additional offload opportunities, total mobile data traffic would grow 16-fold rather than 13-fold by 2017).

Advisors on Science and Technology (“PCAST”).^{43/} However, as T-Mobile suggested, the public interest would be better served by making at least some of the 3.5 GHz Band available for licensed operations. Dedicated at least some of the 3.5 GHz Band for licensed use would better protect incumbent users, simplify sharing, facilitate greater spectrum use, align with the FCC’s spectrum auction obligations, and accommodate a wider variety of technologies. While T-Mobile proposes that at least 50 megahertz of spectrum be licensed, if any of the band is used for unlicensed operations, T-Mobile supports a less complicated two-tiered licensed shared access approach under which a single licensee would have access to the licensed spectrum when the incumbent operator is not using it. Such an approach would be consistent with spectrum management techniques undertaken elsewhere, better ensure a predictable quality of service for 3.5 GHz Band users, and provide a better method to prevent harmful interference to existing users. T-Mobile further proposed that the 3.5 GHz Band be optimized for TDD operations, that the spectrum be made available in blocks of not less than ten megahertz, and that the Commission re-evaluate the size of exclusion zones.

B. In Making Spectrum Available, the Commission Must Ensure Against Excessive Concentration.

Additional spectrum will do little to foster a competitive wireless ecosystem if it is concentrated in the hands of the two largest providers. Excessive concentration presents significant risks, because it leads to anticompetitive practices that ultimately harm consumers. In a highly concentrated market, dominant firms have a strong economic interest in maintaining and

^{43/} See President’s Council of Advisors on Science and Technology (“PCAST”), *Exec. Office of the President, Report to the President: Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth* (2012), available at http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf.

increasing market power.^{44/} A large incumbent wireless service provider places a “foreclosure value” on spectrum if it can obtain or enhance market power in wireless services by keeping the spectrum away from its rivals.^{45/} Firms that place a high foreclosure value on spectrum may outbid rivals with a higher “use value” (*i.e.* the revenue the provider would receive from actual use of the spectrum) and obtain spectrum at auction, even when that would ultimately not be the best outcome for consumers or society as a whole. Excluding rivals in this manner allows dominant firms to charge more for existing service and reduces competitive pressure to innovate and invest in new products and services.^{46/} The resulting harms may extend beyond downstream wireless services markets to markets for complementary products (*e.g.* wireless infrastructure and devices, wholesale wireless services, mobile applications, etc.).^{47/}

Despite the Commission’s efforts, spectrum has become increasingly concentrated in the hands of the nation’s largest wireless carriers, particularly in the bands below 1 GHz that are especially well-suited for advanced mobile broadband applications. In its last wireless competition report, the Commission found that the two largest national carriers now together hold more than 78 percent of the valuable spectrum below 1 GHz.^{48/} The DOJ even notes that this figure likely understates the carriers’ current actual holdings of this valuable spectrum.^{49/}

^{44/} See Letter from Trey Hanbury, Hogan Lovells, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-269, at 5 (filed May 30, 2013) (“T-Mobile May 2013 Ex Parte Letter”); DOJ Submission at 10; Jonathan B. Baker, “Spectrum Auction Rules That Foster Mobile Wireless Competition,” at 3 (March 12, 2013) (“Baker Report”), *attached to* Letter from Howard J. Symons, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-269 (filed March 12, 2013).

^{45/} See DOJ Submission at 11.

^{46/} See Baker Report at 4.

^{47/} See *id.* at 5.

^{48/} See *Sixteenth Competition Report* ¶¶ 52, Table 12; 118, Table 17.

^{49/} See DOJ Submission at 14, n.21.

In order to prevent excessive spectrum concentration, T-Mobile has recommended that the Commission impose a cap on spectrum purchases at auction, including a one-third cap on the acquisition of spectrum available below 1 GHz at auction.^{50/} A one-third cap for below 1 GHz spectrum would not only give effect to the Commission's statutory obligations to "avoid excessive concentration of licensees" and to distribute licenses to "a wide variety of applicants,"^{51/} but also would likely increase participation, potentially increasing auction revenues. Firms may not participate in auctions if they expect to be outbid by a large incumbent that would obtain a "foreclosure value."^{52/} If such firms choose not to participate, incumbents may win the bid and foreclose rivals, depressing auction revenues. In contrast, under a spectrum cap, firms under the cap would be encouraged to participate and the resulting increase in revenues could offset (or more than offset) the revenue effect of reduced demand by large incumbents subject to the cap.

Spectrum caps in auctions also increase regulatory certainty, thereby encouraging more aggressive bidding by large incumbent firms.^{53/} For instance, large incumbent firms that would

^{50/} See Comments of T-Mobile USA, Inc., GN Docket No. 12-268, at 27-31 (filed Jan. 25, 2013) ("T-Mobile Incentive Auction Comments"); Comments of T-Mobile USA, Inc., WT Docket No. 12-269, at 10-12, 17-18 (filed Nov. 28, 2012) ("T-Mobile Mobile Spectrum Holdings Comments"); Letter from Thomas J. Sugrue, Senior Vice President, Government Affairs, T-Mobile, to Julius Genachowski, Chairman, FCC, *et al.*, WT Docket No. 12-269 (filed May 7, 2013) ("T-Mobile May 2013 Response to AT&T").

^{51/} 47 U.S.C. § 309(j)(3)(B).

^{52/} Baker Report at 10-11 (explaining that a potential auction participant "expecting to be outbid could readily be deterred from participating in the first place"); *see also* Peter Cramton, "Lessons from the United States Spectrum Auctions," Testimony before the United States Senate Budget Committee, 3 (Feb. 10, 2000).

^{53/} *See also* Letter from Dick Thornburgh, K&L Gates LLP, Counsel to Sprint Nextel Corp., to Mignon Clyburn, Acting Chairwoman, FCC, *et al.*, WT Docket No. 12-269 (filed June 3, 2013) ("With such a rule, carriers would gain the benefit of knowing *in advance* how much spectrum they could obtain and how much their rivals could purchase in an auction or secondary market transactions. In particular, such certainty would help prospective auction participants prepare their business plans, models and strategies, and obtain necessary financing, leading to a more effective and efficient auction.").

be under the cap in various markets but would be uncertain about the outcome of a post-auction review would not need to discount bids to account for the risk they may later bear the costs of divesting the spectrum they have won.^{54/} Moreover, spectrum caps would avoid the costs and delays associated with post-auction regulatory reviews and avoid prolonging uncertainty about how spectrum would be allocated.^{55/} While case-by-case competition reviews make sense for secondary market transactions that take place after time passes where circumstances have changed since the original spectrum allocation, they are inefficient and burdensome when applied to the complex auction process.

The FCC has the authority to impose such eligibility restrictions and other rules of general applicability to promote competition and prevent excessive spectrum concentration. Upfront auction rules that apply to all participants are “rules of general applicability . . . concerning spectrum aggregation that promote competition” and thus are specifically permitted under section 309(j)(17)(B) of the Spectrum Act, even if those rules affect different entities differently.^{56/} Such rules are fully consistent with the express preservation of Commission authority to address spectrum aggregation.

Even though T-Mobile continues to believe that the Commission should impose a one-third cap on spectrum obtained at auction below 1 GHz, it does not believe that any carrier should be completely excluded from an auction. If a carrier already holds more than one-third of

^{54/} Baker Report at 8 (“Absent clear auction rules, firms may base their bids on potentially erroneous predictions of how the agency will react in an after-the-fact review of auction results, distorting auction bidding and outcomes.”).

^{55/} See T-Mobile May 2013 Response to AT&T at 7-8; DOJ Submission at 21-22 (stating that “a case-by-case review of every acquisition by a winning bidder in a large auction could strain the agencies’ resources and delay quick allocation of spectrum critical for innovation and increased competition”).

^{56/} 47 U.S.C. § 309(j)(17)(B); see, e.g., *PBW Stock Exchange, Inc. v. SEC*, 485 F.2d 718, 732 (3d Cir. 1973) (upholding a rule as being of general applicability because it is “of prospective application and applicable across the board, although the rule may affect each of the [stock] exchanges to differing degrees”).

the spectrum below 1 GHz in a market, the Commission should create a minimum access exception so that carriers are not foreclosed from obtaining spectrum in a newly available band. Applied to the 600 MHz band, T-Mobile does not seek and has never sought to exclude AT&T or Verizon Wireless from participating in the auction for that spectrum.^{57/} To the contrary, such a result would create unfavorable economics for T-Mobile and other providers that seek to operate in the band in the future. AT&T and Verizon Wireless enjoy volume purchasing power, promote international standardization, and command attention from the global supply chain. If they are not part of the 600 MHz ecosystem, T-Mobile's as well as other carriers' equipment costs and product development cycles would likely increase. To the extent that AT&T and Verizon Wireless exceed the proposed sub-1 GHz cap in certain markets, the Commission should apply a minimum access exception so that, regardless of how concentrated their spectrum holdings are in a given county, they could always acquire a single 5x5 MHz block of spectrum at auction.

C. In Making Spectrum Available, the Commission Must Also Keep in Mind the Differences in High- and Low-Band Spectrum

The Bureau asks how it should account for differences in spectrum holdings and bandwidth in evaluating mobile wireless competition and how service providers' network deployment plans are affected by their spectrum holdings in the frequencies above and below 1 GHz.^{58/} As nearly all industry participants, as well as the FCC and DOJ have recognized, spectrum below 1 GHz is uniquely valuable for mobile broadband networks.^{59/} Spectrum below

^{57/} See T-Mobile May 2013 Ex Parte Letter at 1-2.

^{58/} See *Public Notice* at 6.

^{59/} See, e.g., *id.* at 6; DOJ Submission at 12 (“[L]ow-frequency spectrum . . . has superior propagation characteristics, permitting better coverage in both rural areas and building.”); Baker Report at 14; T-Mobile Incentive Auction Comments at 27-29; T-Mobile Mobile Spectrum Holdings Comments at 14-18; T-Mobile May 2013 Response to AT&T at 2-5.

1 GHz has favorable propagation characteristics that provide for better coverage inside buildings and across larger geographic areas, and provides higher spectral efficiency over a given area than higher-band spectrum.^{60/} Put simply, a carrier can cover more area and offer better in-building service using lower-band spectrum with fewer cell sites at a lower cost than higher-band spectrum, a result that cannot effectively be replicated at higher bands even if carriers are willing to make the additional investments required to deploy and operate systems in those bands.^{61/}

Because of its coverage characteristics and decreased build-out costs, lower-frequency spectrum is particularly useful in rural areas. Carriers also need lower-frequency spectrum in urban areas because it penetrates buildings better than higher-frequency spectrum. Regardless of location, as the Commission and DOJ have pointed out, a mix of high- and low-frequency spectrum best enables carriers to meet different needs in a network build-out and to compete effectively.^{62/} Steve Largent, President and CEO of CTIA, testifying recently at the Senate subcommittee hearing on the state of wireless communications, explained that “[t]he ideal situation for a carrier is to have both high band and low band spectrum” because “[o]ne is better for when you’re dealing with concentrated users and another type of spectrum is better to cover broad areas in rural communities.”^{63/} This is especially important for carriers like T-Mobile,

^{60/} See T-Mobile May 2013 Response to AT&T at 3.

^{61/} See *id.* at 4; Baker Report at 15 (“Low-frequency spectrum can serve the capacity function more typically associated with high-frequency spectrum. But the physical properties of high-frequency spectrum make it costly and less practical for wireless providers to use high-frequency spectrum to serve the coverage function more typically associated with low-frequency spectrum.”).

^{62/} See *Sixteenth Competition Report* ¶ 127 (“[B]ecause the properties of lower and higher frequency spectrum are complementary, both types of spectrum may be helpful for the development of an effective nationwide competitor that can address both coverage and capacity needs.”); DOJ Submission at 12-13; see also Baker Report at 14-15 (“[M]obile wireless services of any given geographic coverage and quality . . . can be provided more efficiently using a mix of low and high spectrum frequencies than using either frequency exclusively.”).

^{63/} See *State of Wireless Communications: Hearing Before the Senate Subcomm. on Communications, Technology, and the Internet*, 113th Cong. (June 4, 2013) (oral testimony of the

since the cost-penalty for providing service without using a mix of low-frequency and high-frequency spectrum disproportionately impacts providers that mainly employ high-frequency spectrum.^{64/} The FCC should therefore ensure, through the 600 MHz auction rules noted above and elsewhere, that its spectrum policies enable all providers to obtain a mix of high- and low-band spectrum based upon their own determinations of how to build their networks.

III. MOBILE WIRELESS SERVICES: PROVIDER CONDUCT

A. T-Mobile Has Made Significant Progress in Introducing Advanced Services.

The Bureau requests information on the extent to which mobile wireless providers have upgraded, or plan to upgrade, their networks with 3G and 4G technologies.^{65/} T-Mobile has made substantial improvements to its network and is making progress in rolling out advanced communications services. Today, as noted above, T-Mobile provides 4G service to 220 million people and it already provides 4G LTE service in seven metropolitan areas.^{66/} It also intends to launch additional 4G LTE by the end of this year using AWS spectrum to 200 million people.^{67/} Where it does not offer 4G LTE, T-Mobile customer devices will automatically transition to its

Honorable Steve Largent, President and CEO, CTIA), *available at* http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord_id=1c02913b-8fa6-4e0f-a66c-5eb477f95d7b&ContentType_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&Group_id=b06c39af-e033-4cba-9221-de668ca1978a&MonthDisplay=6&YearDisplay=2013.

^{64/} See T-Mobile May 2013 Ex Parte Letter at 11.

^{65/} See *Public Notice* at 7.

^{66/} See T-Mobile 4G Has You Covered, *supra* note 7.

^{67/} See *Edited Transcript: TMUS - T-Mobile US, Inc. at JPMorgan Global Technology, Media and Telecom Conference*, at 10 (May 15, 2013) (Statement of Neville Ray, EVP, Chief Technology Officer) (“We have said 100 million POPs by midyear, so that is about six weeks away, and I’m extremely confident we’ve built all of that and more. We will blow through that number for midyear and the 200 million on LTE is not too far behind that.”).

4G HSPA+ network. Under T-Mobile's network strategy, 4G HSPA+ essentially serves as a fallback such that consumers can have 4G coverage with multiple technologies.^{68/}

In just six weeks after completing the combination of T-Mobile and MetroPCS, T-Mobile has already begun migrating MetroPCS customers onto its 4G HSPA+ and LTE network, ahead of its planned schedule.^{69/} The company is making HSPA+ and LTE compatible devices available to MetroPCS customers as well as allowing them to bring their own unlocked compatible HSPA+ or LTE phone. MetroPCS customers in Boston, Las Vegas and Hartford, Connecticut can now purchase two new HSPA+ Android™-powered cutting-edge smartphones running on a nationwide 4G network – the LG Optimus L9™ and Samsung Galaxy Exhibit™. T-Mobile expects full customer migration to be complete by the end of 2015.^{70/}

B. Despite Continuing Network Expansion, T-Mobile and Other Carriers Still Require Roaming.

Despite T-Mobile's substantial investment in expanding its network, it still requires access to roaming as do all carriers.^{71/} T-Mobile appreciates the Commission's actions to require data roaming, which the D.C. Circuit Court of Appeals recently upheld.^{72/} The *Data Roaming Order* adopted by the Commission in 2011 requires facilities-based providers of "commercial mobile data services" (any mobile data service that is not interconnected with the telephone

^{68/} See *id.* at 2 (Statement of Braxton Carter, EVP, CFO).

^{69/} See T-Mobile Release, *Migration of MetroPCS Customers to Nationwide 4G HSPA+ and LTE Network Ahead of Schedule* (June 14, 2013), available at <http://investor.t-mobile.com/phoenix.zhtml?c=177745&p=irol-newsArticle&ID=1829961&highlight=>.

^{70/} See *id.*

^{71/} See *Sixteenth Competition Report* ¶ 208 ("No mobile wireless provider – including the four nationwide providers – has built out its entire licensed service area, and consequently all providers employ roaming to some extent to fill gaps in their coverage.").

^{72/} See *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Second Report and Order, 26 FCC Rcd 5411 (2011) ("*Data Roaming Order*"), *aff'd sub nom. Cellco P'ship v. FCC*, 700 F.3d 534 (D.C. Cir. 2012).

network) to offer data roaming arrangements to other providers of such services on “commercially reasonable terms and conditions.”^{73/} While adoption of this requirement has been an important first step, difficulties remain in reaching commercially reasonable roaming agreements.^{74/}

The Commission must continue to ensure that data roaming capability is promoted and its data roaming obligations are effectively enforced.^{75/} It should also be prepared to intervene in this area to ensure the competitive provision of essential roaming services. To this end, the Commission should, as it stated it would, act expeditiously on legitimate roaming complaints brought to the FCC under its data roaming rules and exercise discretion to impose fines, forfeitures, or other appropriate remedies when necessary to ensure a competitive marketplace.^{76/}

C. Handsets Play a Critical Role in Competition.

The Bureau seeks comment on the role of handsets and devices in competition among mobile wireless service providers.^{77/} A global handset market can benefit competition by driving down prices for consumers and facilitating consumer choice. For competitive carriers, handset compatibility can enhance economies of scale, expand roaming opportunities, and increase deployment of next-generation broadband services across the country, especially in rural areas. Some service offerings, however, may be negatively impacted by other carriers’ use of

^{73/} *Id.* ¶¶ 40-41.

^{74/} *See Sixteenth Competition Report* ¶ 201 (“Several providers have stated that, although the Commission adopted the *Data Roaming Order* in 2011, the ability to negotiate data roaming agreements on non-discriminatory terms and at reasonable rates remains a concern.”).

^{75/} *See T-Mobile Wireless Competition Comments* at 9-12.

^{76/} *See Data Roaming Order* ¶ 77 (“When roaming-related complaints or petitions for declaratory ruling are filed, we intend to address them expeditiously.”); *id.* ¶¶ 80, 84.

^{77/} *See Public Notice* at 8.

customized equipment. Where required, the Commission should therefore ensure interoperability to promote a global market for handsets.

The Commission should promote interoperability across all paired 600 MHz band channels either by adopting an express interoperability requirement or by using a quasi-random assignment process whereby the FCC randomly would assign generic 600 MHz blocks to winning bidders.^{78/} Under either approach, the FCC would eliminate the ability of carriers to create custom-designed or “boutique” band classes that reduce the availability, affordability, and portability of end user equipment; increase consumer switching costs; and delay the deployment of mobile broadband services.

D. Facilitating IP Interconnection Relationships Among Carriers Is Essential to a Competitive Wireless Marketplace.

The Commission should further improve competition in the marketplace by facilitating competitive interconnection arrangements among carriers as the IP transition occurs. Key to this is the establishment of a more efficient network interconnection architecture with a small number of regional IP points of interconnection (“POIs”). Specifically, the Commission should adopt a regime under which all carriers are required to exchange traffic at regional POIs, precluding incumbent local exchange carriers (“ILECs”) from requiring competitive carriers to replicate legacy ILEC networks and preventing perpetuation of inefficient and anticompetitive conditions that would directly hinder the deployment of advanced competitive services.^{79/} Development of

^{78/} See T-Mobile Incentive Auction Comments at 21-22.

^{79/} See Comments of T-Mobile USA, Inc., GN Docket No. 12-353, at 6 (filed Jan. 28, 2013) (“T-Mobile IP Interconnection Comments”).

appropriate trials of regional IP interconnection, as proposed by T-Mobile, would also help further the IP transition process.^{80/}

The Commission should also continue with a transition to bill-and-keep and apply that regime to the transport and tandem switching charges. Otherwise, transport and tandem switching rates will become an *ad hoc* intercarrier compensation recovery fund to make up for reduced termination charges and will deter ILECs from transitioning to more efficient IP networks.^{81/} In addition, the Commission should be diligent in enforcing the existing requirement that ILECs must negotiate IP-to-IP interconnections in good faith, and it should maintain the important regulatory backstop provided under Sections 251 and 252 of the Communications Act to ensure competitive services result from this critical transition process.^{82/}

IV. INPUT AND DOWNSTREAM SEGMENTS OF THE MOBILE WIRELESS ECOSYSTEM

The Bureau correctly recognizes that, in addition to spectrum access, mobile services depend on access to inputs such as cell sites, towers and other network infrastructure,^{83/} and seeks comment on what the major barriers are or constraints faced by providers needing to add or modify cell sites in their networks.

T-Mobile is pleased that the *Shot-Clock Order* issued by the FCC in 2009 was recently upheld in the *City of Arlington* decision.^{84/} The *Shot-Clock Order*, which established

^{80/} See *id.* at 17-18; Reply Comments of T-Mobile USA, Inc., GN Docket No. 12-353, at 10-11 (filed Feb. 25, 2013) (“T-Mobile IP Interconnection Reply Comments”).

^{81/} T-Mobile IP Interconnection Comments at 7-8.

^{82/} See *id.* at 11-13; T-Mobile IP Interconnection Reply Comments at 5-10.

^{83/} See *Public Notice* at 14.

^{84/} See *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance*, Declaratory Ruling, 24 FCC Rcd 13994 (2009) (“*Shot-Clock Order*”), *aff’d sub nom. City of Arlington, Texas v. FCC*, 569 U.S. ____ (2013).

presumptively reasonable time limits for state and local zoning authorizes to determine whether or not to approve applications for towers and antennas, creates regulatory certainty that will facilitate prompt access to wireless broadband services to the benefit of the public.^{85/}

Specifically, under the *Shot Clock Order*, the Commission established review periods of 90 days for collocation applications and 150 days for siting applications other than collocations.^{86/} These bright-line review periods have the effect of ensuring that wireless tower siting requests are not unreasonably denied or delayed, thereby ensuring seamless delivery of wireless services across the country.

While the *Shot Clock Order* will provide additional predictability in local tower siting review, it is important that the Commission do what it can to expedite the process as well. T-Mobile is pleased that the Commission recently granted an interim waiver of its pre-construction environmental notice requirements for certain temporary towers (*i.e.* towers that will only be in place for two months) that require antenna structure registration (“ASR”).^{87/} The FCC’s ASR rules require applicants for new towers and substantial modifications to existing towers to provide local and national notice of their applications for environmental effects. Although they include exemptions for certain towers and in cases of emergency, T-Mobile agrees with CTIA

^{85/} Lynn Stanton, *Supreme Court Upholds FCC’s Interpretation of “Shot Clock” Authority in Tower-Siting Case*, TR DAILY, at 4 (May 20, 2013) (quoting Tom Sugrue, Senior Vice President-Regulatory and Legislative Affairs at T-Mobile) (“Today’s Supreme Court decision to uphold the FCC’s ‘shot clock’ regarding local governments and cell siting efforts is a win for the FCC, and for consumers throughout the country. Access to wireless broadband services is a critical communication and safety issue for every citizen, and a pressing infrastructure problem of national importance.”).

^{86/} *Shot Clock Order* ¶ 19.

^{87/} *See Amendment of Parts 1 and 17 of the Commission’s Rules Regarding Public Notice Procedures for Processing Antenna Structure Registration Applications for Certain Temporary Towers; 2012 Biennial Review of Telecommunications Regulations*, Order, RM-11688 and WT Docket No. 13-32, FCC 13-72 (rel. May 16, 2013) (adopting an interim waiver to cover temporary towers that (1) will be in use for no more than 60 days; (2) require notice of construction to the FAA; (3) do not require marking or lighting under Federal Aviation Administration regulations; (4) will be less than 200 feet in height; and (5) involve no or only minimal ground disturbance).

that there are many non-emergency situations that require the construction of temporary towers to address short-term capacity constraints.^{88/} The Commission's adoption of an interim waiver for these temporary towers will allow carriers to quickly address capacity concerns, avoid service disruptions, and extend coverage and fill in gaps.

However, as the continued growth in consumer demand for wireless data services continues to put pressure on wireless carriers for additional tower access in order to provide service,^{89/} it is critical that the Commission continue to improve the tower siting and antenna registration processes. T-Mobile proposes that the Commission take the following actions to allow carriers to have quicker access to transmitter sites, thereby expanding mobile broadband services and increasing competition:

First, for the same reasons it granted an interim waiver, the Commission should approve CTIA's request for a permanent exemption from the environmental notification procedures. An exemption would allow carriers to act quickly to address capacity and coverage gaps and avoid service disruptions.

Second, the Commission should exempt "Twilight Towers" from the Section 106 review process to expedite collocation on these structures. Twilight Towers are those built between March 16, 2001 and March 7, 2005 that were required to undergo a Section 106 historic preservation review but for which there is no evidence or documentation that the review process was completed.^{90/} Under the Nationwide Programmatic Agreement for the Collocation of

^{88/} See Petition for Expedited Rulemaking of CTIA–The Wireless Association®, RM-11688, at 4 (filed Dec. 21, 2012).

^{89/} See *Sixteenth Competition Report* ¶ 323.

^{90/} See 16 U.S.C. § 470f. On March 7, 2005, pursuant to the Nationwide Programmatic Agreement adopted in 2004, the Commission's application forms for new tower sites and for collocations on structures that had not undergone prior Section 106 historic preservation review became effective. See *Nationwide Programmatic Agreement Regarding the Section 106 National Historic Review Act Process*,

Wireless Antennas adopted in 2001, collocation on most structures that completed the Section 106 process prior to March 16, 2001, are exempt from further review.^{91/} However, because documentation of Section 106 review, otherwise required for collocation, is missing for many Twilight Towers, approval for allowing collocation on these structures has been delayed, in some cases for years. As a result, the towers are not currently being fully utilized and deployment of additional wireless services has been severely hampered. Therefore, the FCC should promptly exempt Twilight Towers from the Section 106 review process.

Third, the Commission should take steps to facilitate the deployment of DAS and small cell technologies. Wireless providers are increasing their use of DAS and small cell technologies to expand their coverage and capacity in targeted areas where conditions make it impractical to deploy traditional tower-based macrocell sites. DAS are typically placed on smaller structures such as lamp posts and utility poles and pose minimal environmental impacts. Ambiguities in the FCC's review and approval process can cause needless delays in DAS deployment. The FCC should remain vigilant in its efforts to avoid such delays by removing regulatory uncertainty where applicable in order to promote new technological solutions.

V. INTERMODAL COMPETITION

Finally, the Bureau requests comment on the extent to which mobile voice services compete with wireline services and the reasons for these developments.^{92/} Mobile wireless services continue to displace legacy wireline services at a steady pace. According to early estimates from the most recent National Health Interview Survey, over one-third of American

Report and Order, 20 FCC Rcd 1073 (2004); FCC, Wireless Telecommunications Bureau, Nationwide Programmatic Agreement, <http://wireless.fcc.gov/siting/npa.html> (last visited June 14, 2013).

^{91/} See *Wireless Telecommunications Bureau Announces Execution of Programmatic Agreement with Respect to Collocating Wireless Antennas on Existing Structures*, Public Notice, 16 FCC Rcd 5574 (2001).

^{92/} See *Public Notice* at 16.

homes, approximately 35.8 percent, had only wireless telephones and approximately 34 percent of all adults (about 80 million adults) lived in households with only wireless telephones during the first half of 2012.^{93/}

Despite consumers' increasing preference for mobile services over wireline services, wireless carriers are receiving less support from the USF to expand service to rural and high-cost areas across the country.^{94/} Moreover, as wireless revenues have increased, wireless carriers are being required to bear an increasingly disproportionate share of the USF contribution burden. Currently, wireless carriers contribute approximately three billion dollars annually to the USF, but receive less than half that amount in high-cost funding.^{95/} At the same time, the Commission has adopted policies increasing ILEC support.

Wireless carriers should not be required to fund their wireline competitors. The Commission should reform the USF contribution mechanism in a manner that is fair, efficient, and sustainable in light of the changing communications landscape. One way the Commission can reform the contribution mechanism is by broadening the base to cover all communications and information services that include a transmission component and adopting a value-added calculation.^{96/} If the Commission decides to exclude certain categories of service revenues, it should exclude text messaging revenues. T-Mobile is willing to consider different contribution methodologies and looks forward to working with the Commission in this regard.

^{93/} See Stephen J. Blumberg and Julian V. Luke, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January-June 2012*, at 2 (Dec. 2012) (noting that this is a 1.8 percentage point increase from the second half of 2011, but that this is the smallest increase observed for any 6-month period dating back to January 2008).

^{94/} See Comments of T-Mobile USA, Inc., WC Docket No. 06-122 and GN Docket No. 09-51, at 1-2 (filed July 9, 2012).

^{95/} See *id.* at 3.

^{96/} See *id.* at 5-9.

VI. CONCLUSION

In order to foster the growth of competition and innovation in the wireless marketplace, T-Mobile respectfully requests that the Commission promptly take the actions outlined above.

Respectfully submitted,

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